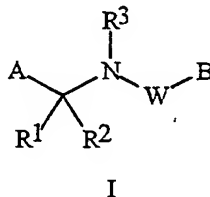


CLAIMS

What is claimed is:

1. A composition for controlling plant diseases caused by fungal plant pathogens comprising:

(a) at least one compound of Formula I, *N*-oxides and agriculturally suitable salts thereof



wherein

A is a substituted pyridinyl ring;

B is a substituted phenyl ring;

W is C=L or SO<sub>n</sub>;

L is O or S;

R<sup>1</sup> and R<sup>2</sup> are each independently H; or C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl or C<sub>3</sub>-C<sub>6</sub> cycloalkyl, each optionally substituted;

R<sup>3</sup> is H; or C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>2</sub>-C<sub>10</sub> alkoxyalkyl, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxy carbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl or C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl; and

n is 1 or 2; and

(b) at least one compound selected from the group consisting of

(b1) alkylenebis(dithiocarbamate) fungicides;

(b2) compounds acting at the bc<sub>1</sub> complex of the fungal mitochondrial respiratory electron transfer site;

(b3) cymoxanil;

(b4) compounds acting at the demethylase enzyme of the sterol biosynthesis pathway;

(b5) morpholine and piperidine compounds that act on the sterol biosynthesis pathway;

(b6) phenylamide fungicides;

(b7) pyrimidinone fungicides;

(b8) phthalimides; and

(b9) fosetyl-aluminum.

2. A composition of Claim 1 in which component (a) is a compound of Formula I wherein

A is a pyridinyl ring substituted with from 1 to 4 R<sup>5</sup>;

B is a phenyl ring substituted with from 1 to 4 R<sup>6</sup>;

W is C=O;

R<sup>1</sup> and R<sup>2</sup> are each independently H; or C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl or C<sub>3</sub>-C<sub>6</sub> cycloalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO<sub>2</sub>, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>2</sub>-C<sub>4</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>4</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino and C<sub>3</sub>-C<sub>6</sub> cycloalkylamino;

R<sup>3</sup> is H; and

each R<sup>5</sup> and R<sup>6</sup> is independently C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>2</sub>-C<sub>6</sub> haloalkenyl, C<sub>2</sub>-C<sub>6</sub> haloalkynyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl, halogen, CN, CO<sub>2</sub>H, CONH<sub>2</sub>, NO<sub>2</sub>, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>3</sub>-C<sub>6</sub> cycloalkylamino, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxycarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl or C<sub>3</sub>-C<sub>6</sub> trialkylsilyl; or

each R<sup>5</sup> and R<sup>6</sup> is independently a phenyl, a benzyl, a phenoxy, a 5- or 6-membered heteroaromatic ring or a 5- or 6-membered nonaromatic heterocyclic ring, each ring optionally substituted with from one to three substituents independently selected from R<sup>7</sup>; or

two R<sup>6</sup> attached to contiguous carbon atoms are taken together with said carbon atoms to form a fused phenyl ring, a fused 5- or 6-membered nonaromatic carbocyclic ring, a fused 5- or 6-membered heteroaromatic ring or a fused 5- or 6-membered nonaromatic heterocyclic ring, each fused ring optionally substituted with from one to three substituents independently selected from R<sup>7</sup>;

each R<sup>7</sup> is independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, C<sub>2</sub>-C<sub>4</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>2</sub>-C<sub>4</sub> haloalkenyl, C<sub>2</sub>-C<sub>4</sub> haloalkynyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl, halogen, CN, NO<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>3</sub>-C<sub>6</sub> cycloalkylamino, C<sub>3</sub>-C<sub>6</sub> (alkyl)cycloalkylamino, C<sub>2</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxycarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl or C<sub>3</sub>-C<sub>6</sub> trialkylsilyl.

3. A composition of Claim 2 wherein component (b) is cymoxanil.
4. A composition of Claim 2 wherein component (b) is a compound selected from (b2).
5. A composition of Claim 4 wherein component (b) is famoxadone.

6. The composition of Claim 1 wherein component (b) comprises at least one compound from each of two different groups selected from (b1), (b2), (b3), (b4), (b5), (b6), (b7), (b8) and (b9).

7. The composition of Claim 6 wherein component (b) comprises at least one compound selected from (b2) and at least one compound selected from (b1), (b3), (b6), (b7), (b8) or (b9); wherein the overall weight ratio of component (b) to component (a) is from 30:1 to 1:30; and wherein the weight ratio of component (b2) to component (a) is from 10:1 to 1:1.

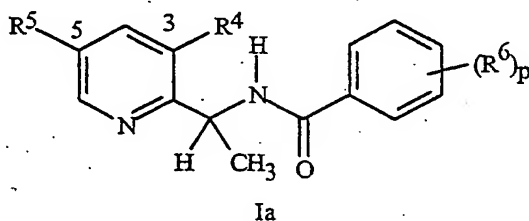
8. The composition of Claim 6 wherein component (b) comprises cymoxanil and at least one compound selected from (b1), (b2), (b6), (b7), (b8) or (b9); wherein the overall weight ratio of component (b) to component (a) is from 30:1 to 1:30; and wherein the weight ratio of cymoxanil to component (a) is from 10:1 to 1:1.

9. A method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of a composition of Claim 1.

10. The method of Claim 9 wherein the disease to be controlled is caused by the fungal pathogen *Phytophthora infestans*.

11. The method of Claim 9 wherein the disease to be controlled is caused by the fungal pathogen *Plasmopara viticola*.

12. A compound of Formula Ia and *N*-oxides and agriculturally suitable salts thereof



wherein

$R^4$  is halogen;

$R^5$  is  $C_1$ - $C_6$  alkyl, halogen,  $NO_2$ ,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_4$  haloalkylsulfonyl;

each  $R^6$  is independently  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl, halogen,  $NO_2$ ,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_4$  haloalkylsulfonyl; or

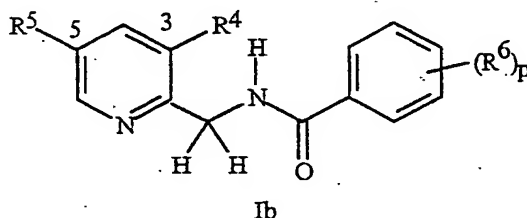
two  $R^6$  attached to contiguous carbon atoms are taken together with said carbon atoms to form a fused 5- or 6-membered nonaromatic heterocyclic ring containing one

or two oxygen atoms and optionally substituted with from one to four substituents independently selected from F or methyl; and

p is 1, 2, 3 or 4.

13. The compound of Claim 12 wherein  $R^5$  is Cl, Br, I,  $CH_3$ ,  $OCF_3$ ,  $OCHF_2$ ,  $OCH_2CF_3$ ,  $OCF_2CF_3$ ,  $OCF_2CF_2H$ ,  $OCHF_2CF_3$ ,  $SCF_3$ ,  $SCHF_2$ ,  $SCH_2CF_3$ ,  $SCF_2CF_3$ ,  $SCF_2CF_2H$ ,  $SCHF_2CF_3$ ,  $SOCF_3$ ,  $SOCHF_2$ ,  $SOCH_2CF_3$ ,  $SOCF_2CF_3$ ,  $SOCF_2CF_2H$ ,  $SOCHF_2CF_3$ ,  $SO_2CF_3$ ,  $SO_2CHF_2$ ,  $SO_2CH_2CF_3$ ,  $SO_2CF_2CF_3$ ,  $SO_2CF_2CF_2H$  or  $SO_2CHF_2CF_3$ .

14. A compound of Formula Ib and *N*-oxides and agriculturally suitable salts thereof



wherein

$R^4$  is halogen;

$R^5$  is  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_4$  haloalkylsulfonyl;

each  $R^6$  is independently  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl, halogen,  $NO_2$ ,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_4$  haloalkylsulfonyl; or

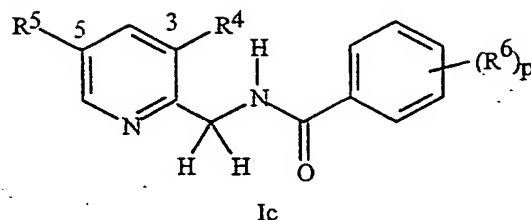
two  $R^6$  attached to contiguous carbon atoms are taken together with said carbon atoms to form a fused 5- or 6-membered nonaromatic heterocyclic ring containing one or two oxygen atoms and optionally substituted with from one to four substituents independently selected from F or methyl; and

p is 1, 2, 3 or 4.

15. The compound of Claim 14 wherein  $R^5$  is  $OCF_3$ ,  $OCHF_2$ ,  $OCH_2CF_3$ ,  $OCF_2CF_3$ ,  $OCF_2CF_2H$ ,  $OCHF_2CF_3$ ,  $SCF_3$ ,  $SCHF_2$ ,  $SCH_2CF_3$ ,  $SCF_2CF_3$ ,  $SCF_2CF_2H$ ,  $SCHF_2CF_3$ ,  $SOCF_3$ ,  $SOCHF_2$ ,  $SOCH_2CF_3$ ,  $SOCF_2CF_3$ ,  $SOCF_2CF_2H$ ,  $SOCHF_2CF_3$ ,  $SO_2CF_3$ ,  $SO_2CHF_2$ ,  $SO_2CH_2CF_3$ ,  $SO_2CF_2CF_3$ ,  $SO_2CF_2CF_2H$  or  $SO_2CHF_2CF_3$ .

16. A compound of Formula Ic and *N*-oxides and agriculturally suitable salts thereof

58



wherein

$R^4$  is Cl or Br;

$R^5$  is Br or I;

each  $R^6$  is independently  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl, halogen,  $NO_2$ ,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_4$  haloalkylsulfonyl; or

two  $R^6$  attached to contiguous carbon atoms are taken together with said carbon atoms to form a fused 5- or 6-membered nonaromatic heterocyclic ring containing one or two oxygen atoms and optionally substituted with from one to four substituents independently selected from F or methyl; and

p is 1, 2, 3 or 4.